

**Request to Archive  
With The National Centers for Environmental Information  
For Coastal and Great Lakes Water Level, Currents, Physical Oceanographic and  
Meteorology data  
Provided by NOAA>NOS>CO-OPS**

**2016-05-11**

This information will be used by NCEI to conduct an appraisal and make a decision on the request.

**1. Who is the primary point of contact for this request?**

Peter Stone  
NOS/CO-OPS  
Technical Director  
301-713-2981 x149  
peter.stone@noaa.gov  
Cell Phone - 301-704-5312

**2. Name the organization or group responsible for creating the dataset.**

DOC/NOAA/NOS/CO-OPS > Center for Operational Oceanographic Products and Services, National Ocean Service,  
NOAA, U.S. Department of Commerce

**3. Provide an overview summarizing the scope of data you want to archive. Describe the outputs, data variables, including their measurement resolution and coverage.**

CO-OPS collects various data types associated with tides/water levels, tidal currents, and other coastal physical oceanographic parameters. CO-OPS collects 1-minute and 6-minute interval water level data (including from redundant sensors), and then generates datasets such as hourly heights, highest & lowest levels of each tidal cycle ("high/low"), monthly means (and daily means for the Great Lakes). These data and products are then made available to the public (with exception of 1-minute data). CO-OPS also collects 6-minute ADCP current meter data of speed, direction, bin number and ancillary metadata within the data records for dissemination to the public. The program also collects 6-minute air gap (bridge clearance) data for safe navigation as well as water temperature and conductivity observations. There is also a backlog of meteorological data from the 1980's to 2013 at about 200 locations. Data since 2013 is already being sent to NCEI (via NDBC). Data parameters include air temperature, barometric pressure, wind speed, direction and gust.

**4. What is the time period covered by the dataset? (YYYY-MM-DD, YYYY-MM or YYYY)**

From 1854  
Ongoing as continuous updates to the data record

**5. Edition or version number(s) of the dataset:**

N/A

**6. Approximate date when the dataset was or will be released to the public:**

2016-05-10

**7. Who are the expected users of the archived data? How will the archived data be used?**

Academia, historians, coastal surveyors, developers. The archived data are useful in long-term analyses such as sea level trends/sea level rise or for seeing previous conditions at times of historical events/periods. Note, NOS/CO-OPS already produces a number of products from these long term data sets. They can be viewed at the [Tidesandcurrent.noaa.gov](http://Tidesandcurrent.noaa.gov) website.

**8. Has the dataset undergone user evaluation and/or an independent review process? Did NCEI participate in design reviews?**

NOS/CO-OPS is the authoritative organization for water level measurements. We have developed and documented standards for installing water level stations, quality controlling data, the building of standard products and their dissemination. NOS/CO-OPS has contributed to, and follows IHO and GLOSS international standards. When new systems need to be developed, NOS/CO-OPS works with both the national and international community to develop those methodologies. The NOS/CO-OPS data is regularly certified and used in U.S. legal proceedings as expert testimony.

**9. Describe the dataset's relationship to other archived datasets, such as earlier versions or related source data. If this is a new version, how does it improve upon the previous version(s)?**

CO-OPS currently sends its 1 minute water level data from approximately active 206 stations to NCEI on a monthly basis. This data is sent in XML format. If preferable to NCEI CO-OPS can reformat these files to NetCDF, or keep them in XML. Since 2013 CO-OPS has been archiving 6 minute meteorological data (wind speed, direction, gust, temperature, barometric pressure, visibility, and humidity) from approximately 250 active stations through an agreement with NWS/NDBC. This archiving did not include met data collected prior to 2013 which encompasses an additional 15 to 20 years of data at approx. 250 stations.

**10. List the input datasets and ancillary information used to produce the data.**

For water level data: 1 minute data from approximately 206 active stations. 6 minute raw and quality controlled (also know as verified) data from from about 285 active stations and ~1000 historical stations dating from about 1996 to the present. Verified Hourly, highs and lows, and monthly mean data from approximately 285 active stations and about 3000 historical stations, 6 minute ADCP current meter data from approximately 55 active stations and from approximately 615 historical stations. Raw, 6 minute Water Temperature data from approximately 212 active stations, raw conductivity data from approximately 21 active stations. Raw 6 minute Meteorological data (wind speed, direction, gust, temperature, barometric pressure, visibility, and humidity) from approximately 315 active stations. Raw 6 minute Air Gap data from approximately 13 active stations. Note, active stations refer to stations that are currently installed and considered permanent and thus have both historical data sets and new data being generated.

**11. List web pages and other links that provide information on the data.**

<http://tidesandcurrents.noaa.gov/>

**12. List the kinds of documents, metadata and code that are available for archiving. For example, data format specifications, user guides, algorithm documentation, metadata compliant with a standard such as ISO 19115, source code, platform/instrument metadata, data/process flow diagrams, etc.**

1. NCEI currently maintains a metadata for NWLON water level metadata at the following url:

<http://www.ngdc.noaa.gov/docucomp/page?xml=testaws/NOAA/NOSA/iso/xml/NOS-NWLON.xml&view=getDataView&header=none>.

Currently, all the data is stored in a SQL based data base that is accessible through the [Tidesandcurrent.noaa.gov](http://Tidesandcurrent.noaa.gov) website. The publication page of the website (<http://tidesandcurrents.noaa.gov/pub.html>) and the Field Library section (<http://tidesandcurrents.noaa.gov/fieldlibrary/ViewLibrary>)

**13. Indicate the data file format(s).**

1. CSV
2. XML

**14. Are the data files compressed?**

No

**15. Provide details on how the files are named and how they are organized (e.g., file\_name\_pattern\_YYYYMM.tar in monthly aggregations).**

Data file names and organization can be customized to mutual benefit of both NCEI and CO-OPS. The data, and any required metadata, will be downloaded from the SQL data base and can be formatted in a number of different formats as required.

**16. Explain how to access sample data files and/or a file listing for previewing. If it is not available now, when will it be available?**

CO-OPS data are currently available on the CO-OPS web site (by individual station pages), including through the IOOS Data Portal at: <http://opendap.co-ops.nos.noaa.gov/> This page gives access to the CO-OPS SOAP web services, CO-OPS OPeNDAP server and CO-OPS THREDDS server. Data from station pages can be exported to CSV, XML or JSON; data from the IOOS Data Portal are available as XML or text format.

**17. What is the total data volume to be submitted?**

**Historic Data: all historic data or data submitted as a completed collection.**

Total Data Volume: 3.5TB

Number of Data Files: 1

**Continuous Data: data volume rate for a continuous data production.**

Total Data Volume Rate: 100MB per Day

Data File Frequency: 1 per Day

Data Production Start: 2016-05-11

**18. Are later updates, revisions or replacement files anticipated? If so, explain the conditions for submitting these additional data to the archive.**

Every month, the water level data undergoes a rigorous data quality procedure to create a high quality data set that is used for further product generation such as datums, harmonic constituents, and sea level trends. This high quality data set is called verified data. The procedures for creating the verified data set are detailed in the CO-OPS Field Library on the CO-OPS web site.

**19. Describe the server that will connect to the ingest server at NCEI for submitting the data.**

Physical Location: SSMC4 Silver Spring, Maryland, 20910

System Name: OceansMd

System Owner: DOC/NOAA/NOS/CO-OPS > Center for Operational  
Oceanographic Products and Services, National Ocean Service,  
NOAA, U.S. Department of Commerce

Additional Information:

**20. What are the possible methods for submitting the data to NCEI? Select all that apply.**

1. FTP PULL

**21. Identify how you would like NCEI to distribute the data. Web access support depends on the resources available for the dataset.**

1. Unknown

**22. Will there be any distribution, usage, or other restrictions that apply to the data in the archive?**

No known constraints apply to the data.

**23. Discuss the rationale for archiving the dataset and the anticipated benefits. Mention any risks associated with not archiving the dataset at NCEI.**

These data provide users with a wider dissemination pathway and information for long-term studies on environmental conditions such as sea level rise or conditions at earlier times in history.

**24. Are the data archived at another facility or are there plans to do so? Please explain.**

CO-OPS has internal requirements to maintain an archive of all 1- and 6-minute raw water level data such that it is accessible to CO-OPS employees for additional processing if needed. No decision has been made how this data will be archived. Additionally, all verified data and products (hourly heights, high/low, monthly or daily means) will be maintained on the CO-OPS' database in perpetuity for access by employees and users via the web site. 6-minute ADCP speed and direction for all in-water bins and associated metadata (temperature, pressure, tilts, etc.) will all remain on CO-OPS' database in perpetuity for access by employees and users via the web site

**25. Is there an existing agreement or requirement driving this request to archive? Have you already contacted someone at NCEI?**

Kelly Stroker is our NCEI POC. We have an existing agreement for our meteorological data and for our 1 minute water level data. CO-OPS has also filed Request for Archive for our operational hydrodynamic model forecast guidance and our Harmful Algal Bloom (HAB) bulletin products.

**26. Do you have a data management plan for your data?**

We do not have a full data management plan but do have a policy on data retention and archiving.

**27. Have funds been allocated to archive the data at NCEI?**

No

**28. Identify the affiliated research project, its sponsor, and any project/grant ID as applicable.**

N/A

**29. Is there a desired deadline for NCEI to archive and provide access to the data?**

No deadlines for archive or access.

**30. Add any other pertinent information for this request.**

None